

IN THE CLAIMS

1. (Currently Amended) A method for transporting data, comprising:

transmitting, through a Synchronized Packet-Based Trunk, data to a communication ring, wherein the communication ring employs Dynamic Bandwidth Sharing, wherein the data is transmitted in different packet formats, the different packet formats separately transmitting signaling data, synchronous data, and asynchronous data; and

transporting the data ~~transporting~~, through the communication ring, wherein the bandwidth of the communication ring is divided into Subscription Bandwidth for each node on the communication ring and Over-Subscription Bandwidth shared by all nodes on the communication ring ~~the data~~.

2. (Previously Presented) A method for transporting data, comprising:

transporting data through a communication ring employing Dynamic Bandwidth Sharing, wherein the bandwidth of the communication ring is divided into Subscription Bandwidth for each node on the communication ring and Over-Subscription Bandwidth shared by all nodes on the communication ring; and

receiving, through a Synchronized Packet-Based Trunk, the data from the communication ring, wherein the data is received in different packet formats, the different packet formats separately transmitting signaling data, synchronous data, and asynchronous data.

3. (Original) A Synchronized Packet-Based Trunk method for transporting data, comprising:

transmitting a Frame Synchronization Packet through a communication channel at the beginning of a Frame Cycle, wherein the Frame Cycle has a predetermined duration;

accumulating a set of synchronous data;

accumulating a set of asynchronous data;

transmitting the set of synchronous data through the communication channel during the Frame Cycle; and

transmitting a portion of the set of asynchronous data through the communication channel during the Frame Cycle, wherein the portion is selected responsive to the size of the Frame Synchronization Packet, the size of the transmitted set of synchronous data, and the duration of the Frame Cycle.

4. (Original) The Synchronized Packet-Based Trunk method for transporting data of Claim 3, wherein the transmitted set of synchronous data is transmitted in at least one TDM Packet.

5. (Previously Presented) The Synchronized Packet-Based Trunk method for transporting data of Claim 3, wherein the transmitted portion of asynchronous data is transmitted in at least one Asynchronous Data Packet.

6. (Previously Presented) A Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring, comprising:

assigning a Subscription Bandwidth for each of a plurality of nodes on the communication ring, the Subscription Bandwidth being an amount of bandwidth guaranteed to be reserved on the communication ring for each node;

assigning an Over-Subscription Bandwidth for the communication ring, the Over-Subscription Bandwidth being an amount of bandwidth on the communication ring not being assigned as Subscription Bandwidth, the Over-Subscription Bandwidth being shared by all the nodes on the communication ring;

assigning, to each node, a Maximum Over-Subscription Bandwidth based on the Over-Subscription Bandwidth for the communication ring;

setting, at each node, an Access Bandwidth, wherein the Access Bandwidth is initially equal to the Maximum Over-Subscription Bandwidth, the Access Bandwidth being the actual Maximum Over-Subscription Bandwidth at a particular time;

adjusting, at a particular node, the Access Bandwidth after the particular node receives a congestion signal; and

adjusting, at the particular node, the Access Bandwidth after the particular node receives a congestion cleared signal.

7. (Previously Presented) The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, further comprising assigning, to each node of the plurality of nodes, an Acceptable Over-Subscription Bandwidth; and wherein the Access Bandwidth of the particular node is not adjusted to a value less than the Acceptable Over-Subscription Bandwidth of particular node.

8. (Previously Presented) The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 7, wherein adjusting the Access Bandwidth after the particular node receives a congestion signal is responsive to the position of the particular node in the communication ring, a randomizing process, a duration of Congestion, the Acceptable Over-Subscription Bandwidth, and the Maximum Over-Subscription Bandwidth.

9. (Previously Presented) The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, wherein adjusting the Access Bandwidth after the particular node receives a congestion signal is responsive to the position of the particular node in the communication ring.

10. (Previously Presented) The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, wherein adjusting the Access Bandwidth after the particular node receives a congestion signal is responsive to a randomizing process.

11. (Previously Presented) The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6 wherein adjusting the Access Bandwidth after the particular node receives a congestion cleared signal is performed at predetermined intervals until the Access Bandwidth is adjusted to a value equal to the Maximum Over-Subscription Bandwidth for the particular node.

12. (Previously Presented) The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, wherein adjusting the Access Bandwidth after the particular node receives a congestion cleared signal is responsive to a randomizing process.

13. (Previously Presented) The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, further comprising generating, at the particular node and responsive to Congestion at the particular node, the congestion signal.

14. (Previously Presented) The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, further comprising generating, at the particular node and responsive to clearing Congestion at the particular node, the congestion cleared signal.

15. (Currently Amended) An apparatus for transporting data, comprising:

means for transmitting, through a Synchronized Packet-Based Trunk, data to a communication ring, wherein the communication ring employs Dynamic Bandwidth Sharing, wherein the data is transmitted in different packet formats, the different packet formats separately transmitting signaling data, synchronous data, and asynchronous data; and

means for ~~transporting~~, transporting the data through the communication ring, wherein the bandwidth of the communication ring is divided into Subscription Bandwidth for each node on the communication ring and Over-Subscription Bandwidth shared by all nodes on the communication ring ~~the data~~.

16. (Previously Presented) An apparatus for transporting data, comprising:

means for transporting data through a communication ring employing Dynamic Bandwidth Sharing, wherein the bandwidth of the communication ring is divided into Subscription Bandwidth for each node on the communication ring and Over-Subscription Bandwidth shared by all nodes on the communication ring; and

means for receiving, through a Synchronized Packet-Based Trunk, the data from the communication ring, wherein the data is received in different packet formats, the different packet formats separately transmitting signaling data, synchronous data, and asynchronous data.

17. (Original) A Synchronized Packet-Based Trunk apparatus for transporting data, comprising:

means for transmitting a Frame Synchronization Packet through a communication channel at the beginning of a Frame Cycle, wherein the Frame Cycle has a predetermined duration;

means for accumulating a set of synchronous data;

means for accumulating a set of asynchronous data;

means for transmitting the set of synchronous data through the communication channel during the Frame Cycle; and

means for transmitting a portion of the set of asynchronous data through the communication channel during the Frame Cycle, wherein the portion is selected responsive to the size of the Frame Synchronization Packet, the size of the transmitted set of synchronous data, and the duration of the Frame Cycle.

18. (Original) The Synchronized Packet-Based Trunk apparatus for transporting data of Claim 17, wherein the transmitted set of synchronous data is transmitted in at least one TDM Packet.

19. (Previously Presented) The Synchronized Packet-Based Trunk apparatus for transporting data of Claim 17, wherein the transmitted portion of asynchronous data is transmitted in at least one Asynchronous Data Packet.

20. (Previously Presented) A Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring, comprising:

means for assigning a Subscription Bandwidth for each of a plurality of nodes on the communication ring, the Subscription Bandwidth being an amount of bandwidth guaranteed to be reserved on the communication ring for each node;

means for assigning an Over-Subscription Bandwidth for the communication ring, the Over-Subscription Bandwidth being an amount of bandwidth on the communication ring not being assigned as Subscription Bandwidth, the Over-Subscription Bandwidth being shared by all the nodes on the communication ring;

means for assigning, to each node, a Maximum Over-Subscription Bandwidth based on the Over-Subscription Bandwidth for the communication ring;

means for setting, at each node, an Access Bandwidth, wherein the Access Bandwidth is initially equal to the Maximum Over-Subscription Bandwidth, the Access Bandwidth being the actual Maximum Over-Subscription Bandwidth at a particular time;

means for adjusting, at a particular node, the Access Bandwidth after the particular node receives a congestion signal; and

means for adjusting, at the particular node, the Access Bandwidth after the particular node receives a congestion cleared signal.



21. (Previously Presented) The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, further comprising means for assigning, to each node of the plurality of nodes, an Acceptable Over-Subscription Bandwidth; and wherein the Access Bandwidth of the particular node is not adjusted to a value less than the Acceptable Over-Subscription Bandwidth of the particular node.

22. (Previously Presented) The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 21, wherein adjusting the Access Bandwidth after the particular node receives a congestion signal is responsive to the position of the particular node in the communication ring, a randomizing process, a duration of Congestion, the Acceptable Over-Subscription Bandwidth, and the Maximum Over-Subscription Bandwidth.

23. (Previously Presented) The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, wherein the means for adjusting the Access Bandwidth after the particular node receives a congestion signal is responsive to the position of the particular node in the communication ring.

24. (Previously Presented) The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, wherein the means for adjusting the Access Bandwidth after the particular node receives a congestion signal is responsive to a randomizing process.

25. (Previously Presented) The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, wherein the means for adjusting the Access Bandwidth after the particular node receives a congestion cleared signal is invoked at predetermined intervals until the Access Bandwidth is adjusted to a value equal to the Maximum Over-Subscription Bandwidth for the particular node.

26. (Previously Presented) The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, wherein the means for adjusting the Access Bandwidth after the particular node receives a congestion cleared signal is responsive to a randomizing process.

27. (Previously Presented) The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, further comprising means for generating, at the particular node and responsive to Congestion at the particular node, the congestion signal.

28. (Previously Presented) The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, further comprising means for generating, at the particular node and responsive to clearing Congestion at the particular node, the congestion cleared signal.